



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,815	02/09/2004	Gerald G. Pechanek	800.0133 A1110 D1 C1 D1	2931
27997	7590	05/12/2006		
PRIEST & GOLDSTEIN PLLC 5015 SOUTHPARK DRIVE SUITE 230 DURHAM, NC 27713-7736				
EXAMINER ENG, DAVID Y				
ART UNIT		PAPER NUMBER		
2155				

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,815

Applicant(s)

PECHANEK ET AL.

Examiner

DAVID Y. ENG

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-62 is/are pending in the application.
- 4a) Of the above claim(s) 44-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/8/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

The Office action mailed 9/19/2005 was based on the originally filed claims 1-43 instead of the preliminary amended claims 44-62 because the preliminary amendment was not scanned into the system. The Office action mailed on 9/19/2005 therefore is withdrawn.

In the amendment filed on 2/9/2004, "now U.S. Patent No. 6,023,753" second occurrence in line 3 of the specification should be deleted.

Claims 1-43 have been cancelled. New claims 44-62 have been entered. The pending claims are 44-62. Claims.

Claims 44-47 were presented previously in the immediate parent 10/036,789 as claims 53-56 which were cancelled. Claims 48-62 are newly submitted new claims.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claim 44, drawn to a method of forming clusters of processing elements, classified in class 712, subclass 10.
- II. Claims 45-47, drawn to an array processor having columns and rows arranged in clusters $PE_{(I+a)(\text{Mod}N), (j+n-a)(\text{Mod}N)}$, classified in class 712, subclass 13.
- III. Claims 48-62, drawn to an array processor having processing elements and cluster switches for inter and intra cluster connections between processing elements, classified in class 712, subclass 11.

The inventions are independent or distinct, each from the other because:

Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I, II each has separate utility such processing elements arranged in star clusters and not columns and rows. See MPEP § 806.05(d).

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions

unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

During a telephone conversation with Joseph B. Agusta on 4/4/2006 a provisional election was made without traverse to prosecute the invention of Group III, claims 48-62. Affirmation of this election must be made by applicant in replying to this Office action. Claims 44-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claims 44-47 have been withdrawn from consideration. Applicants are requested to cancel the non-elected claims 43-47. The active claims are 48-62.

The information disclosure statement filed 3/8/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. The references in the IDS are not found in the parent application because they are cited the first time.

Claims 48-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The "wherein clause" in line 6-8 of claim 48 is not understood.

In claim 49, the second plurality of processing elements are not a cluster because they do not have a cluster switch. The second plurality of processing elements are no more than a subgroup of the first plurality of processing elements.

Claims 1, 6 and 13 of prior U.S. Patent No. 6,892,291 or claims 1-3, 13, 15 of prior U.S. Patent No. 6,338,129 or claims 5-7, 14-16, and 25-26 contain every element of claims 48-60 of the instant application and as such anticipate claims 48-62 of the instant application.

"A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " **ELI LILLY AND COMPANY v BARR LABORATORIES, INC.**, United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

The claims of each of the above patents recite an array processor comprising clusters of processing elements, a plurality of cluster switches for bridging

Art Unit: 2155

communication between processing elements of the same and different clusters.

Cluster control line for carrying control signal is inherent in a cluster switch of an array processor for bridging communication between processing elements of the same and different clusters. Note that cluster switch is a digital component. All digital components are inherently controlled by signals carried on control lines.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 48-51, 54-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Barker (USP 5,717,943).

With respect to claims 48-49, 54 and 50-62, see at least Figure 18 and the description thereof in Barker. Barker teaches an array processor (Fig. 18) comprising a plurality of cluster elements (Clusters 0-N), a plurality of cluster switches (cluster controllers 0-N). Cluster control line for carrying control signal is inherent in a cluster switch of an array processor for bridging communication between processing elements of the same and different clusters. Note that cluster switch is a digital component. All digital components are inherently controlled by signals carried on control lines.

As to claim 50, no patentable is given to identifier because it has no function.

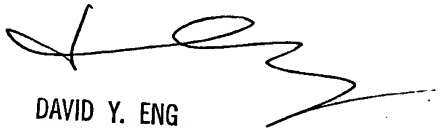
As to claims 51 and 55, 58, 59, no patentable is given to matrix coordinate because it has no function.

As to claims 56-57, the array processor of Barker is also two dimensional (see Figure 10) with each of the processing elements connected to its four sides (North, East, South and West) of neighbor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID Y. ENG whose telephone number is 571-272-3984. The examiner can normally be reached on M-F from 8AM to 3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SALEH NAJJAR, can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DAVID Y. ENG
PRIMARY EXAMINER